# Vektor for GaAs and InP based lasers, p-HEMTs and HBTs

Toshiba has purchased a Vektor X-ray diffraction tool from Accent Optical Technologies, a supplier of lattice engineering and photolithography process control tools. Toshiba will use the tool for DVD laser manufacturing at its Kitakyushu facility.

Vektor is a high-throughput XRD tool, with cassette-to-cassette for fully automated operation. Vektor-DCD uses classic double-crystal x-ray optics for the best possible combination of resolution and intensity when measuring epitaxial structures with low dislocation densities, such as GaAs and InP based lasers, p-HEMTs and HBTs.

"We expect that the Accent Vektor will help us improve yields by reducing process variation and lead to improved availability of our production systems due to quick reliable feedback from characterisation," said a Toshiba representative.

# Sandia selects GEN20A MBE System

Sandia National Laboratories purchased a GEN20A MBE system from Veeco Instruments Inc, for installation at the US Department of Energy's (DOE) Center for Integrated Nanotechnologies (CINT).

CINT is jointly operated by Sandia and Los Alamos National Laboratories and supported by the DOE Office of Science.

The GEN20A will be used to grow research materials for Terahertz Quantum Cascade Lasers and other applications proposed by CINT users.

The GEN20A model includes an automated cluster tool wafer handling system, and can grow single 4" or three 2" wafers. The system features a vertical source-to-substrate geometry that enables large source capacity and optional integrated e-beam material delivery.

The exclusive radial vane cryopanel provides excellent material and thermal isolation.

## BedeScan: structural defect detection for semiconductor wafers

Bede's BedeScan digital X-ray inspection tool offers high-speed identification and quantification of structural defects in semiconductor substrates and epilayers up to 300mm in diameter.

The defect mapping tool uses non-destructive X-ray diffraction (XRD) to identify anomalies in both incoming and processed wafers, including thermal slip dislocations, edge damage, and other crystallographic defects.

BedeScan is ideal for high-volume manufacturing, delivering quantitative data that enables in-line statistical control of manufacturing processes. It offers the same crystalline defect detection as non-automated, film-based instruments. BedeScan allows for imaging of wafers in both reflection and transmission modes, providing information about crystallographic defects in the surface region and bulk of wafers. Digital image processing permits measurement routines of selected regions only, avoiding measurement of traditionally perfect areas. Its software offers customisable speed, resolution, and scanning range.

## STS opens in Singapore

Surface Technology Systems plc (STS) has opened a new, dedicated sales office in Singapore. It will provide local sales and service support to customers and STS agents throughout Asia and Australasia, including Singapore, Australia, China, Hong Kong, India, Korea, Malaysia, Philippines, Taiwan and Thailand. Heading the office is Ian Wright, director of Asia business development.

# Unaxis scores six in Korea

Unaxis Wafer Processing will supply the Korea Advanced Nano Fab Center (KANC) with six Versaline tools, the newest production system in Unaxis' family of wafer processing equipment. This order brings the total number of systems ordered since last year to 30.

Versaline is a modular platform for dry etching applications, offering specialised ICP, RIE, PECVD and PVD modules, which provide advanced solutions for applications including LEDs, HBTs, HEMTs, optoelectronics, and MEMS.

Paul Henry, VP of Unaxis Wafer Processing sales & marketing, said, "Unaxis will also be collaborating with KANC in the development of pioneering processes, equipment, and technologies. The Versaline will play a key role as it delivers the highest levels of technology on a cost effective, flexible platform satisfying R&D and production requirements."

# Riber: production and R&D

Riber has an order from an undisclosed customer for its MBE 7000 production machine.

It will be used to produce power amplifier radio frequency integrated circuits (PA-RFICs) for nomadic products.

The MBE 7000 can simultaneously process seven wafers of 150 mm, and is designed using the same technical platform as Riber's MBE 49 and MBE 6000 machines.

And from an undisclosed research institute comes two orders. One for Riber's Epineat machine and the other for a Compact 21.

Both MBE machines will be used to research and manufacture compound semiconductor materials for optoelectronic applications.